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ABSTRACT

A sample of 54 subjects, representing four levels of management in a chain of retail stores, participated in an experimental study of the effects of channel of communication (face-to-face, telephone, and written) and anonymity on satisfaction with, and distortion of, upward communication. Results indicated that the channel used led to significant differences in subjects' satisfaction with the channel, their satisfaction with the upward communication, and their perceptions of how openly they communicated. There were no significant differences in these measures due to anonymity. Limitations of results and their applicability to the organization and to future research are discussed. (AA)

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COMMUNICATION CHANNELS, ANONYMITY AND THE REDUCTION OF UPWARD COMMUNICATION DISTORTION: A CONTROLLED FIELD STUDY

(Special thanks to Dr. Don Faules, Dr. Carol Werner, and Dr. Charles Turner for their excellent advice on this research.)

By

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Communication Channels, Anonymity
and the Reduction of Upward Communication Distortion:
A Controlled Field Study

This study was primarily designed to investigate new ways of reducing upward communication distortion. The independent variables of channel of communication and anonymity were employed in order to determine their relative effects on satisfaction with upward communication and distortion of upward communication. The past research indicated that the independent variables separately would affect the dependent variables and the author felt that the combination of the two was a unique and sensible strategy to explore possible approaches for reducing upward communication distortion.

The results indicated that subjects satisfaction with the channel varied as a function of the channel used, satisfaction with upward communication varied as a function of the channel used, and subjects perceptions of how openly they communicated varied as a function of the channel used.

The results were discussed in terms of their applicability to the organization and future research. Possible limitations were cited.

Communication Channels, Anonymity
and the Reduction of Upward Communication Distortion:
A Controlled Field Study

Introduction: Conceptual Frameworks

Upward communication in an organization is the process of transmitting information from the bottom levels of an organization to the top levels of an organization. Distortion of upward communication takes place when information is changed or deleted as it passes upward.

Channel is an important concept in developing a comprehensive theory of upward communication distortion. Channel is one potential source of the distortion of upward communication. Communicating upward through a satisfying channel is likely to produce less distortion of information than an unsatisfying channel. When communicating through an unsatisfying channel, the user may constantly deal with a reticence or even apprehension caused by the channel, which in turn may detract from the user's concentration upon accurately transmitting information upward. It seems reasonable to assume that channel satisfaction is a significant variable affecting the degree to which upward communication is distorted.

Satisfaction with upward communication would seem to be an important variable when dealing with upward communication distortion. If subordinates are not satisfied with their upward communication they will probably feel a reticence about communicating with their superiors. Using a satisfying channel for upward communication may in turn increase overall satisfaction with upward communication. In reducing upward communication distortion it would seem that reducing dissatisfaction with upward communication would be one of the key problems to solve. Increasing satisfaction with upward communication would in turn remove a good deal of the reti-

cence or apprehension a subordinate might encounter when communicating upward. Increasing upward communication satisfaction appears to be one prerequisite for the reduction of upward communication distortion.

The concept of communication openness is probably the most significant factor in the investigation of upward communication distortion. The openness of upward communication in an organization involves peoples' perceptions of how freely they feel they can communicate upward. The more openly people communicate upward, the less likely they will be to distort information.

The channel subordinates use to communicate upward will affect how openly they feel they can communicate. If a subordinate interacts with his/her superior through a satisfying channel (i.e. face to face) they will probably feel more open in their communication than if they use an unsatisfying channel (i.e. written). The fact that the face to face channel allows subordinates to use verbal and nonverbal mediums for communicating as well as being able to receive both mediums of communication from their superiors may increase their perceptions of how openly they have communicated upward. For similar reasons the telephone channel will probably elicit greater perceptions of openness in upward communication than the written channel. The telephone channel affords more direct communication with upper level management than the written channel and therefore is likely to elicit perceptions of more openness in upward communication.

A discussion of upward communication openness would not be complete without the inclusion of the concept of anonymity. Anonymity occurs when the individual is not identifiable and involves the reduction of social constraints upon the individuals behavior. A high level of anonymity in communicating upward will probably increase the degree to which people

feel they can openly communicate upward and decrease the amount of communication distortion that takes place. Insuring anonymity in upward communication would probably increase the perceived openness of upward communication. The more open people perceive their upward communication to be, the greater is the likelihood that they will accurately communicate upward.

Literature Review

Channel

Past research (Wilson, 1974) suggests that the presence of others, in face to face interaction, for example, might make a person more aware of the fact that he/she is being evaluated than communicating through a written channel. This seems especially true of upward communication in an organizational setting. The presence of others (i.e. superiors) might be a motivating force for communicating accurately or it might serve to inhibit the interactants thus potentially reducint communication accuracy.

Nonverbal communication is differentially available accoring to the channel used. The face to face channel affords a greater availability of nonverbal communication then the telephone channel and the telephone, greater availability then the wirtten channel. It follows that the channel used would have an influence on interaction.

Some channels of communication are more satisfying than others. Dewhirst (1971) found that subjects preferred informal face to face interaction over formal written communication. The work of Zaidel and Mehrabian (1969) suggests that face to face interaction is a better channel for conveying affect than the totally vocal channel of the telephone. Wilson (1974) further states that there is research evidence indicating that people gain different types of information from verbal and nonverbal signals.

Morley and Stephenson (1969) found that subjects were able to present arguments in negotiation situations more successfully over the telephone than in face to face situations, Wickman (1970) found that subjects cooperated more in face to face situations than in non-face to face situations. Cook and Lalljee (1972) found that there were fewer interuptions, shorter pauses, shorter utterances, less filled pauses and a greater amount of speech in telephone than in the face to face channel.

That communication channel influences interaction seems apparent from the past research reviewed. This research specifically attempted to examine the role of communication channel in terms of the distortion of upward communication.

Anonymity

The phenomena of anonymity may provide a workable solution to the problem of upward communication distortion. If "Deep Throat" had not been insured anonymity, he/she or they may not have been as likely to disclose the important information. Anonymity is often used in surveys (Fuller, 1974; Ash and Abramson, 1952; Becker and Bakal, 1970; Elinson and Haines, 1950; Fischer, 1946; Gerberich, 1948; Hamel and Reif, 1952; and King, 1970) to reduce the distortion in subject's responses. The use of anonymity in the present experiment is unique in organizational research.

Zimbardo (1969) investigated the concept of anonymity within the framework of deindividuation research. The concept of anonymity is synonymous with the primary stages of deindividuation. "Deindividuation is a complex, hypothesized process in which a series of antecedent social conditions (i.e. anonymity) lead to changes in perception of self and others, and thereby to a lowered threshold of normally restrained behaviors (words in parentheses

are mine, Zimbardo, 1969, p. 251)." In certain instances a lowered threshold of normally restrained behaviors might have positive benefits. An example might be a normally restrained subordinate openly disagreeing with a problem solution suggested by his superior because the subordinate has a more indepth understanding of the problem. According to Marrett, et.al. (1975), upward communication is a threatening situation to many subordinates. Ziller (1964) referring to the value of anonymity in a situation like upward communication states, "anonymity is sought as a defense against a threatening environment." If subordinates were provided a chance to communicate upward without fear of retribution it is possible that they would freely and openly pass information upward (anger, disagreement, report dishonesty, etc.) that the constraints of an organizational environment would not normally allow. As early as 1952, researchers (Festinger, Newcomb, and Pepitone) found that the subjects of a small group who were insured cultural anonymity were more likely to self-disclose confidential feelings than subjects not insured anonymity. Gergen, Gergen, and Barton (1973) found that groups whose members were insured total anonymity (except for the experimenter's knowledge that they were in the study) achieved high levels of intimacy in extremely short periods of time when compared to groups not insured anonymity. Although these studies were not conducted in an organizational environment, their results point to some interesting possibilities for the organizational setting. Insured anonymity of employees communicating upward may stimulate them to reduce the normal distortion in their upward communication.

It was clear from the review of the past literature on channels of communication, and anonymity, upward communication openness in the organization that further investigation into the phenomena of upward communication distortion was required.

Openness

Argyris (1966) investigating the phenomena of communication openness in the organization concluded that organizations that do not encourage openness in communication elicit defensiveness and concealment of facts necessary for effective decision making. Argyris also concluded that a lack of communication openness in an organization might inhibit employee commitment to organizational goals. Willits (1967) found that openness in the communication of ideas within the organization significantly correlated with job performance and satisfaction measures. These past studies point to the need for openness in organizational communication. If employees withhold or inaccurately pass information upward that is pertinent to the accomplishment of organizational goals but harmful to their own interests a possible consequence would be that people in decision making positions would have inaccurate information with which to make decisions. "Accurate information is likely to result in decisions which are more 'correct' than decisions based upon inaccurate information" (Sussman, 1974).

The results of a number of studies (Marrett, Hage, and Aiken, 1975; Blau and Scott, 1962; Kelly, 1962; Minter, 1969; Read, 1962; Sanborn, 1961; Sincoff, 1969; and Vogel, 1967) revealed the dissatisfaction that many employees have with their perceived inability to openly communicate upward. There is a need in any organization regardless of the degree of communication openness to reduce barriers to upward communication.

The results of several studies (anthanassiades, 1972; Cohen, 1958; and Read, 1962) revealed that as information passes upward in an organization, segments of that information, often salient segments, are filtered out. There are several possible reasons for this filtering process. A member of an organization that passes information to his superiors is not likely to pass on information that puts that member in a disfavorable light.

Redding (1971, p. 332) suggests that the members of an organization would probably not be motivated to disclose information that would put them at a competitive disadvantage or reveal confidential facts about them.

The results of a study by Athanassiades (1972) revealed that subordinates in an organization with a closed communication climate distorted upward communication significantly more than subordinates in an organization with an open communication climate. An interesting finding of the study was that all subordinates (regardless or organizational climate) significantly distorted upward communication. The results of this study provide strong support for the superiority of an open communication climate in reducing the degree of distortion of upward communication.

These past studies indicated the desirability of having an open communication climate. The problem is that they do not suggest specific ways for achieving an open communication climate. The present experiment explored two variables (communication channel and anonymity) that might provide the information from which methods could be developed for achieving an open communication climate within the organization.

The following hypotheses were derived from the proposed conceptual framework formulated in this study.

1. Channel satisfaction will vary according to the channel used.
2. The face to face communication channel will be the more satisfying channel.
3. The telephone communication channel will be more satisfying than the written channel.
4. There will be significantly more satisfaction with upward communication when using the face to face channel than the other channels.

5. There will be significantly more satisfaction with upward communication when using the telephone channel than when using the written channel.
6. Perceived openness of upward communication will be higher for subordinates using the face to face channel than the other channels.
7. Perceived openness of upward communication will be higher for subordinates using the telephone channel than the written channel.
8. The amount of upward communication distortion will vary according to the channel used.
9. The amount of upward communication distortion will be reduced when subordinates are anonymous.

Design

The present experiment employed a two by three factorial design with categorical independent variables. The independent variables were anonymity and channel of communication. Subjects were either anonymous, or known to upper level management. There were three levels of channel, face to face, telephone, and written. There were five dependent measures, satisfaction with communication channel and upward communication, perceived openness of upward communication, and two behavioral measures of upward communication distortion (inaccuracy and ommission in upward communication).

Methods

Subjects

Fifty-four subjects (50 male, four female) were randomly selected from a chain of retail stores spanning two states. The subjects represented four levels of management (supervisors, managers, management trainees, and subordinates).

Materials

A pretest questionnaire was constructed to gather information from a random sample of subjects (17) from the population to be tested in the final experimental treatment. The questionnaire asked subjects to list what they perceived to be rewarding and punishing from upper level management and to rank order channels of communitation in terms of frequency of usage. They also listed types of information that would put them in a bad light with upper management. The final experimental situations were constructed on the basis of the pre tests.

Two hypothetical on the job problem situations were constructed on the basis of the pretests. The situations contained information that would put the subjects in a disfavorable light with their superiors. An example of one problem situation was the subject hearing that a new employee was saying things about him to his superiors behind his back because of two policy violations the subject committed in the presence of the new employee. Additional pieces of information were also constructed from the samples reports of what would be perceived as rewarding or punishing from upper level management. The additional pieces of information represented how the various levels of upper level management might respond to requests for additional information from their subordinates. For example a request by a subordinate for additional information from his/her superior on one of the problems might yeild a response of "you have mishandled the whole situation and I might not promote you as a result."

A post test was created to fulfill the requirements of the hypotheses. The questionnaire utilized one to nine equal appearing interval scales measuring, perceived openness of upward communication, satisfaction with channel used, perceived accuracy of upward communication, and satisfaction with upward communication.

Procedure

The experimenter administered all the subjects the same instructions detailing how they were to work through the two problem situations. The subjects were informed that they would only be allowed to ask upper levels of management for additional information and that they would be required to present a summary of the two problems and their solutions to the two problems to upper level management.

All subjects were informed that top level management would examine

their performance on the problem situations. Subjects in the anonymous condition were informed that their identity would never be revealed unless they so desired (i.e. in the event that they should receive a high score from top level management on their problem situation performance) after completion of the game and receiving their performance scores. The identity of subjects that were not anonymous was revealed to top level management.

Subjects were instructed to role play the two situations and respond as they normally would on the job given the constraints of the experimental situation. The constraints of the experimental situation were that the subjects were only allowed to ask for additional information on the two problem situations from upper management (consisting of their immediate superior and all levels above). The subjects could not ask specific questions about the problem situations. For example a subject could not ask his immediate supervisor how he would solve the problem, the subject could only ask if his supervisor had additional information on the problem. The subjects were required to summarize whatever part of the problem situation they required additional information on and to present the summary either verbally or in writing to the experimenters (who were role playing all levels of upper management). When the subject reached a decision or solution to a given problem, he/she was required to summarize the entire problem situation and then present a solution to the situation to upper level management. Subjects in the face to face and phone conditions made all requests for additional information, problem situation summaries and solutions orally. Subjects in the written conditions performed the same tasks entirely in writing. After completing both situations which took approximately one hour, all subjects completed the posttest questionnaire. All subjects were debriefed.

Operational Definitions

1. Upward Communication - Upward communication was operationally defined in this study as the subjects communication with the experimenter playing the role of their superiors. Their upward communications consisted of the procedures they used to request additional information and the presentation of their problem summaries and outlines.
2. Anonymity - Anonymity was defined as the instructions and assurances from the experimenter that the subjects in the anonymous condition would not be identifiable to top level management even though their performance on the problem situations were judged by top level management. Subjects in the known condition were informed that they would be identifiable to top level management.
3. Channels of Communication - Channels of communication consisted of the face to face, the telephone and the written channel. Subjects were nested within each channel condition and were instructed that they could only use the channel assigned to them for the duration of the experiment.

Measurement of the Dependent Variables

There were two measures of communication distortion and the subject self-report questionnaire.

1. Inaccuracies in upward communication - this measure consisted of total number in inaccurately reported bits of information from the two problem situations when the subjects reported to upper level management. The same information sheets given the subjects were broken into bits of information. Inaccurately reporting any of of the information bits constituted an inaccuracy error.

2. Errors of omission - this measure consisted of the total number of omitted bits of information from the two problem situations when the subjects reported to upper level management in their final problem summaries and solutions.

The contents and structure of the self-report questionnaire were reported in the materials section.

Results

A two by three by two factorial analysis of variance (SPSS Manual p. 410) with categorical independent variables was performed on the five dependent measures. A required significance level of at least .05 was used for all statistical tests.

The dependent variables of satisfaction with channel revealed a significant main effect ($F = 21.84$; 2 and 42 d.f., $p < .001$) supporting hypothesis 1. Newman-Keuls multiple comparison tests (Kirk, 1968, p. 91) were used to identify significant differences between channels on the dependent variable channel satisfaction. The face to face channel was significantly ($w_2 = 1.59$; $w_3 = 3.47$, $p. < .05$) more satisfying than either the telephone or written channels supporting hypothesis 2. The telephone channel was significantly ($w_2 = 1.88$, $p < .05$) more satisfying than the written channel supporting hypothesis 3. These results indicate a linear trend in terms of the channels manipulated on the dependent variable channel satisfaction.

Even though the F ratio ($F = 3.144$; 2 and 42 d.f., $p < .052$) for the main effect of channel of communication on upward communication satisfaction was not significant, there was a definite trend in support of hypothesis 4. Newman-Keuls multiple comparison tests revealed significant ($w_2 = 1.42$; $w_3 = 1.69$, $p < .05$) differences between the face to face, telephone and written channels. The subjects in the face to face condition were significantly more satisfied with their upward communication than either the subjects in the telephone or written channels.

There was a significant ($F = 7.289$; 2 and 42 d.f., $p < .002$) three way interaction involving the two independent variables and the nuisance variable. The nuisance variable classified the subjects as management or non-management. The

employee classification variable was included in the experiment in order to reduce the within treatments error term. Kirk (1968, p.7) recommended including nuisance variables within an experiment's design as one means for controlling them. The three way interaction between the two independent variables of interest and the nuisance variable was not expected thereby making the interaction difficult to interpret. However, the three way interaction indicates the potentially heuristic value of employee classification as a variable that ought to be included in developing a theoretical conceptualization of the upward communication distortion process. A future study investigating the variable of employee classification within the context of the present conceptual framework for the upward communication distortion process seems warranted.

Hypothesis 5 was not supported.

There was a significant ($F = 4.603$; 2 and 42 d.f., $p < .015$) main effect for channel on the dependent variable of perceived openness of upward communication. Newman-Keuls comparison tests revealed a significant difference between the face to face and telephone channels supporting hypothesis 6. Subjects using the face to face channel perceived themselves as communicating significantly ($w_2 - 1.47$, $p < .05$) more openly than the subjects using the telephone channel.

Discussion

The results revealed channel as being a significant variable in the upward communication process. Different channels varied in terms of how satisfying they were for the user. The hypothesis that a more satisfying channel would produce less upward communication distortion was not supported. However, the result that a satisfying channel did not produce less distortion indicated that channel satisfaction may not be related to the degree to which upward communication

is distorted. Because a subordinate finds the face to face channel more satisfying than the other two channels does not necessarily mean that he/she will distort information less on that channel than other channels. Certainly it seems reasonable to contend that the channel a person uses to communicate upward in an organization will affect the speech content of the communication in some way. Differences in the speech content of upward communication in this study when using different channels may have been too subtle for the present research methods to detect. The fact that the sample size for the two dependent variables of communication distortion had to be reduced (by six cases) because of technical problems (faulty recording tape) may have extinguished any possibility for revealing a channel affect. Further research seems warranted in this area using more subtle measurement techniques for detecting alteration in speech content during upward communication.

The results indicated that communication channel affects subordinates overall satisfaction with upward communication. A subordinate who is satisfied with his/her communications upward will be less apprehensive about communicating upward than a subordinate who is unsatisfied with his/her upward communication. Making upward communication more satisfying may also reduce barriers to open upward communication. As subordinates become more open in upward communication, their distortion of upward communication is more likely to be reduced.

The results of this study indicated that one way to increase upward communication satisfaction is to promote the use of face to face interaction whenever possible. The emphasis in many businesses on written communication may be a mistake when dealing with upward communication. It might make better sense to emphasize face to face upward communication and use written upward communication as a follow up because of its permanence as a record.

That communication openness in organization is a highly desirable goal is amply supported by the past research reviewed. The fact that subjects in the face to face channel perceived their communication to be more open that subjects in the other channels indicates the superiority of face to face upward communication over the other forms of upward communication in terms of perceived openness.

The results of this study provide strong support for the contention that the channel of communication used in upward communication plays a significant role in terms of satisfaction with channel and upward communication and perceived ability to communicate upward openly.

The anonymity variable was not a significant variable in the present experiment. The operationalization of anonymity in this experiement may explain its failure to have an effect. Subjects in the anonymous condition may not have believed that their identities would be kept confidential. This seems somewhat likely because several subjects in the anonymous condition asked the experimenter after the study was completed not to reveal their identity to top level management even though the experimenter had previously assured them anonymity during and after the study. The fact that there was a trend in the data (even though it failed to reach statistical significance) is an indication that further research on this variable in the upward communication process would be warranted.

Limitations

There are three possible limitations in the present study. The first deals with the operationalization of anonymity. Subjects may not have believed that they would be truly anonymous. They may have felt that they would be recognized by top level management even though they were assured that they wouldn't be.

The second possible limitation was the operational definition of upward communication. The subjects were asked to role play during the study and may not have reacted to the experimenters as they normally would to upper level management. This did not seem to be the case because the vast majority of subjects participated enthusiastically during the study and attempted to role play the two problem situations. Any role playing situation entails the risk of not approximating reality. Given the time consuming process of data collection for this study the experimenter felt lucky to at least simulate the reality of the subjects. Needless to say "time costs money" in the organization. The last potential limitation to the results of this study was the method of analyzing the subjects actual communication during the game. A more refined category system for analyzing the subjects communication seems warranted. The measurements used may have been too gross to reveal subtle differences.

Bibliography

Argyris, C. Interpersonal barriers to decision making, Harvard Business Review, 1966, 44, 84-97.

Ash, P. and Abramson, E. The effect of anonymity on attitude questionnaire response. Journal of Abnormal and Social Psychology, 1952, 47, 722-723.

Athanassiades, J.C. The sounds and silences of employee communication. The Journal of Business Communication, 10:4, 43-50.

Becker, C. and Bakal, P. Subject anonymity and motivational distortion in self-report data. Journal of Clinical Psychology, 1970, 26, 207-209.

Blau, P. and Scott, W. Formal Organizations: A Comparative Approach. San Francisco: Chandler Publishing Company, 1962.

Cohen, A. Upward communication in experimentally created hierarchies. Human Relations, 1958, 11, 41-53.

Cook, M. and Lalljee, M. Verbal substitute for visual signals in interaction. Semiotica, 1972, 3, 212-222.

Dewhirst, H. Influence of perceived information sharing norms on communication channel utilization. Academy of Management Journal, 1971, 14, 305-315.

Elinson, J. and Haines, V. Role of anonymity in attitude surveys. American Psychologist, 1950, 5, 315.

Festinger, L., Pepitone, A., and Newcomb, T. Some consequences of deindividuation in a group. Journal of Abnormal and Social Psychology, 1952, 47, 382, 389.

Fischer, R. Signed versus unsigned personal questionnaires. Journal of Applied Psychology. 1946, 30, 220-225.

Gerberich, J. and Mason, J. Signed versus unsigned questionnaires. Journal of Educational Research, 1948,42, 122-126.

Gergen, K., Gergen, M., and Barton, W. Deviance in the dark. Psychology Today, 1973, 7, 129-131.

Hamel, L. and Reif, H. Should attitude questionnaire be signed? Personnel Psychology, 1952, 5, 87-92.

King, F. Anonymous versus identifiable questionnaires in drug usage surveys. American Psychologist, 1970, 25, 982-985.

Kirk, R. Experimental design: Procedures for the behavioral sciences, Belmont California: Brooks Cole Publishing Co., 1968.

Marrett, C., Hage, J. and Aiken, M. Communication and satisfaction in organizations. Human Relations, 1975, 28, 661-626.

Morely, I. and Stephenson, G. Interpersonal and interparty exchange: A labortory simulation of an industrial negotiation at the plant level. British Journal of Psychology, 1969, 60, 513-545.

Read, W. Upward communication in industrial hierarchies. Human Relations, 1962, 15, 3-15.

a. Kelly, C. "Actual Listening Behavior" of supervisors, as Related to "Listening Ability", General Mental Ability, Selected Personality Factors and Supervisory Effectiveness. Ph.D. Dissertation; Lafayette, Indiana: Purdue University, 1962.

b. Minter, R. A Comparative Analysis of Managerial Communication in Two Divisions of a Large Manufacturing Company. 4 Vols.PhD. Dissertation; Lafayette, Ind: Purdue University, 1969.

c. Sandborn, G. An Analytical Study of Oral Communication Practices in a Nationwide Retail Sales Organization. Ph.D. Dissertation; Lafayette, Ind: Purdue University, 1961.

d. Sincoff, M. An Experimental Study of the Effects of Three "Interviewing Styles" upon Judgments of Interviewees and Observer-Judges. Ph.D. Dissertation; Lafayette, Ind: Purdue University, 1969.

Sussman, L. The relationship between message distortion and job satisfaction-A field study. Journal of Business Communication, 11:5, 25-29.

Vogel, A. Why don't employees speak up? Personnel Administration, 1967, 30, 18-24.

Wickman, M. Effects of isolation and communication on cooperation in a two-person game. Journal of Personality and Social Psychology, 1970, 16, 114-120.

Willits, R. Company performance and interpersonal relations. Industrial Management Review, 1967, 7, 91-107.

Wilson, C. Interpretation of media effects. 1974, Social Science Research Council, Grant Number P/74157/CW. London, England.

Zaidel, R. and Mehrabian, A. The ability to communicate and infer positive and negative attitudes facially and vocally. Journal of Experimental Research and Personality, 1969, 3, 233-241.

Ziller, R. Individuation and socialization. Human Relations, 1964, 17, 241-360.

Zimbardo, P. The human choice; individuation, reason and order versus deindividuation, impulse, and chaos. Nebraska Symposium on Motivation, 1969, 17, 237-307.

Table 1

Satisfaction with Channel

Source	dF	SS	MS	F	P less than
Channel (A)	2	131.829	65.915	21.843	.001
Anonymity (B)	1	.783	.783	.259	.999
Employee Classification (C)	1	.513	.513	.170	.999
A X B	2	10.862	5.431	1.8	.176
A X C	2	7.993	3.996	1.324	.276
B X C	1	.284	.284	.094	.999
A X B X C	2	18.178	9.089	3.012	.06
Error	42	126.742	3.018	--	--
Total	53	295.333			

Table 2

Satisfaction with Upward Communication

Source	dF	SS	MS	F	P less than
Channel (A)	2	24.735	12.367	3.144	.052
Anonymity (B)	1	.907	.907	.230	.999
Employee Classification (C)	1	.827	.827	.210	.999
A X B	2	13.461	6.731	1.711	.191
A X C	2	2.404	1.202	.306	.999
B X C	1	10.684	10.684	2.716	.103
A X B X C	2	57.35	28.675	7.289	.002
Error	42	165.225	3.934	--	--
Total	53	274.000			

Table 3

Perceived Openness of Upward Communication

Source	dF	SS	MS	F	P less than
Channel (A)	2	31.254	15.627	4.603	.015
Anonymity (B)	1	.005	.005	.001	.999
Employee Classification (C)	1	.427	.427	.126	.999
A X B	2	3.674	1.837	.541	.999
A X C	1	1.242	1.242	.366	.999
B X C	2	6.260	3.130	.922	.999
A X B X C	2	.216	.108	.032	.999
Error	42	142.583	3.395	--	--
Total	53	182.759			

Table 4

Newman-Kuels Comparisons for Channel Satisfaction

	X_1	X_2	X_3
Face to Face X_1	-	1.59*	3.47*
Telephone X_2		-	1.88*
Written X_3			-

*Comparison significantly different at p .05

Table 5

Newman-Kuels Comparisons for Upward Communication Satisfaction

	X_1	X_2	X_3
Face to Face X_1	-	1.42*	1.89*
Telephone X_2		-	.47
Written X_3			-

*Comparison significantly different at p .05

Table 6

Newman-Kuels Comparisons for Perceived Openness of Upward Communication

	X_1	X_2	X_3
Face to Face X_1	-	1.47*	1
Telephone X_2		-	.48
Written X_3			-

*Comparison significantly different at p .05